

Crises, January 22, 1987

Averting Failure, Risking Catastrophe

How do catastrophic failures of social policy come about? Detailed retrospective studies of the decision-making process that preceded such failures reveal with startling frequency one or both of two highly paradoxical characteristics of the policymaking:

a) Arguments for proposals, or analyses of a set of options, that totally fail to raise, or address, seemingly-obvious questions about one or more of the alternatives (such as the possibility of the catastrophic failure that does later occur, or of any potential failure at all, let alone any assessment of its probability or scale). Total lack of explicit consideration of what seem obviously critical concerns.

In particular, this commonly takes the form of arguments in favor of a given course--the one that comes to be chosen, eventually with catastrophic results--on the grounds that it is "necessary" to ultimate success of a larger policy, or to avert its failure: but with no estimate offered at all of its cost, or the likelihood of success if it is chosen--or if it is not, i.e. the difference it makes to the probability of success--or of the form or cost of failure of the proposed course.

This emerged in the documentation of the Pentagon Papers research so commonly as the form that proposals took, including winning proposals, that it is identified in my working notes as The Proposal Pattern, or the Desperate Proposal Pattern (since it was associated with the assertion that every course but the one recommended was certain to fail).

Most recently, it has been observed, with some astonishment, in the single decision-making document released by the White House that preceded, and allegedly determined, President Reagan's decision to send US arms directly to Iran (without Israeli intermediaries) in January, 1986, the memo by Admiral Poindexter (drafted by Lt. Colonel North) on which the President was briefed before he signed the recommended Finding of January 17, 1986 that authorized the venture.

As a number of Senators and other critics observed with great perplexity, the memo mentions possible risks (as being outweighed) and implicit reservations by the Secretary of State and the Secretary of Defense (who "do not recommend" the proposed course) without saying a word as to what these possible risks are, how likely they are to be realized and the consequences if they are, nor what it is about the policy to which the Secretaries object or why. The impression given by this memo is of inexplicably deficient argumentation or analysis, a "crazily" incomplete or reckless decision-making process, preceding (and perhaps causing) the President's fatal decision.

* YET, (see 2) this known "dominant" choice (short-term analysis?) is associated with a crazily reckless, or controversial course, that does produce (as was observed -- President's) lead to catastrophe.

But in this case--as in most of the others--further investigation reveals that the considerations and risks totally omitted from the given document actually have been analysed elsewhere, and have even been brought authoritatively to the President's attention. (This does not eliminate the paradoxical nature of the fact that even one authoritative decision-making document should take a form so apparently deficient; but it reduces its causal significance in determining the decision).

Even before this Finding had been released, we had learned that Shultz and Weinberger had expressed to the President virtually all of the defects in the chosen course that have now materialized (except for the connection with funding for the contras, of which they were not aware and which may not yet have been conceived by North and Poindexter). I.e., they had predicted with considerable clarity and emphasis the scandal the President confronted after the Iranian arms shipments were disclosed by the Lebanese journal, which was bad enough even before the later revelation by Meese of the contra connection. Yet the President had overruled them.

This conforms to the second paradoxical pattern, which has turned up largely since the research on the Pentagon Papers. In particular, it emerges in the research by Larry Berman on the President's decision in July, 1965 to undertake open-ended escalation of US troop commitment to Vietnam. Using documents and interviews from White House sources, unavailable to the Pentagon Papers study, he found that not only Ball (as was already known) but McGeorge Bundy had argued cogently against this course, raising virtually all the questions and criticisms that later events proved to have been crucially relevant and making estimates that were strikingly realistic.

Opposition by Clark Clifford (in great contrast to portrayals of his position at this time) was equally vehement; like a number of Senators LBJ knew and trusted, he used the word "catastrophic" about the course McNamara proposed and the President accepted. (Bundy's characterization of this course--before the President adopted it--was "reckless to the point of folly." The Pentagon Papers--which lacked this document--present almost no case I can remember of language this strong about the proposal of another Cabinet-level official.)

Paradoxically, in the documentation available, the criticisms and estimates raised by foes of the proposal--which would seem to make an overwhelming case against it,

RISKING CATASTROPHE

Daniel Ellsberg
Arrow Seminar, Feb. 3, 1987

You are getting me in the fourth week of flu, in a very depleted state, with my mind like slush at the moment. I will do my best. I have had to cancel a trip I was going to make tonight to Nevada, to protest a nuclear test....

But the fact is that my life since Harvard has had two strains. One, of trying to understand decision-making under uncertainty, analytically, abstractly, philosophically. In those early days there wasn't much of an empirical study of that, such as does exist in the last few years. And second, in an effort to understand better from inside the government, I was a consultant and a researcher and an official within the government, I was drawn in various periods into participation, first with the object of understanding, and second with the need to change the policy. I have gone back and forth, and you are catching me now at the start of a new research stage. I plan to try to apply the theories, in part, developed by Kahneman and Tversky and other people who have recently done empirical work on laboratory-type decision-making, to what is knowable, what I have learned about certain real-world problems.

I will be talking today trying to convey two types of things: one, a sense of some little-known realities to pass on for you to think about and work with. And the other: some very preliminary thoughts on how to understand those realities, inspired very directly by the work that led me to seek out Amos Tversky recently, because I so admired the advances that had been made.

I hadn't planned to expound on his work today. Are most people here relatively familiar with it? Good, I will assume you know pretty much what I am talking about and just allude to that body of work today.

I find that the concepts that this kind of work raises has potential for explaining some extremely perplexing realities about the decision-making process and about the risks that we are facing

today. I have been, for a good thirty years now, almost thirty years (since about '58) preoccupied with two possible types of catastrophes. One that has never been experienced but which has been very much prepared for and planned for: a major, two-sided nuclear war. In most forms, something close to an ultimate catastrophe. Second, a major non-nuclear war which, having come out of WWII, the Great War, Americans did not think of that as necessarily catastrophic. They came out with a sense that large war, technological war, was one fought far from our shores and in which victory was ultimately assured. There was great honor in it; really there were quite positive feelings about war, in contrast to most other countries in the world who have experienced destruction such as the U.S. has not had since the Civil War.

Of course, Vietnam, without bringing much destruction at home, did confront us with the possibility of politically and socially disastrous kinds of involvement, even for ourselves. And obviously, also a possibility for other countries in the world, with so many wars going on right now, all considerably disastrous for the people involved, even without nuclear weapons: Iran and Iraq, the Soviets in Afghanistan, the Vietnamese in Cambodia, Israel in Lebanon, and so many others---all of which were undertaken by countries that had high assurance of quick success. Countries that regarded themselves as technologically superior, politically and socially superior, in some cases racially superior--attitudes that the U.S. had toward Vietnam, and attitudes apparently equally available to the Vietnamese themselves, so that when they went into Cambodia, they did not expect to be fighting still, years later. Nor did the Soviets expect what they are getting in Afghanistan, obviously. Nor the Iraqis when they attacked Iran.

Surely from the perspective of those societies, these have for some time, for most of the people involved if not for the top leaders, been experienced as massive failures of policy in some sense, terribly costly, catastrophic, not just for the people who died, but for many others.

The two kinds of catastrophes are linked (one potential, the other real) because if nuclear war comes, and I believe there is a significant risk of this coming to be, and I believe, contrary to some others, that that risk is growing....I should also say that I put the probability, the vague probability of that, considerably

higher than most people who rank as an experts. And I am an expert, by any of the criteria by which these others would be considered--not so much in my recent exposure to inside information, obviously, but in terms of past experience. I drafted the Kennedy administration guidelines for general nuclear war, the civilian guidance for the U.S. nuclear war plans in 1961, followed the resulting plans for several years for the Secretary of Defense. I've learned from recent books like The Wizard of Armageddon, based on interviews, that my particular plans of that period have, I am sorry to say, been taken out of the safe and reapplied by the Reagan administration, in very different circumstances. So I am literally sorry to say that my thinking of that time, my understanding, seems to be not so obsolete as I would have hoped, at this point. My experience in Vietnam was at quite high levels of decision-making, as an Assistant to the Secretary of Defense. And then later, as a student with high access of the Pentagon Papers. Also, a particular study that I had, as well as experience, was on the one hand participation in the Cuban Missile Crisis, as a high-level staff person under the Executive Committee of the National Security, but that led me to a study of nuclear crises and decision-making in nuclear crises, with very high classified access at the time of an unusual sort.

I mention all this to say that therefore I am not deterred or entirely deferential to a very widespread expert opinion that nuclear war in an era of parity is close to impossible. Polls by Yankelovich and others have shown that that is the opinion of people who are generally considered as experts. I think they are wrong, in various ways. We can go into that a little bit. But in one respect I would agree with them: nuclear war emerging essentially from a situation of peace, non-conflict, even to the extent that that is true today, the U.S. is involved in a covert war, but in a situation where there is not more violence between the U.S. and the Soviets than there is today, the idea of nuclear war emerging out of the blue by a preventive attack by one side or the other is as low likelihood as most people imagine it to be: very, very unlikely. If nuclear war does come--I think it almost surely will come via the first kind of situation I have described, namely, a major previously-limited non-nuclear war, probably in the Third World, probably not in Europe, exploding into nuclear war. That is the contingency that the experts seem to be downgrading, that the war could explode in that manner. I think they very blatantly underrate that possibility, and the

possibility that a non-nuclear war involving U.S. and Soviet troops, which is the (precursor?) I am talking about for nuclear war, could arise.

The question I am going to focus on today is: How would, in particular (I am not going to focus mainly on the nuclear, although I could, since it is a main subject), but I am going to talk about the more day-to-day catastrophe of the emergence of the kinds of wars that we do see happening and have seen over the last generation--how they come about, and how certain similar related phenomenon having an equal appearance of catastrophe could come about.

In some cases, such wars arise out of long history of conflict between two neighbors, or one can see them coming for quite a long time. In other cases, either the war itself or the major escalation comes quite unexpectedly to the population-at-large, just as certain kinds of technological breakdowns come, suddenly and surprisingly. Airliners colliding, that is no longer so surprising to us. Amtrack colliding with ConRail? It won't be surprising next year, but this year was very surprising. It hadn't happened for a long time, and on a small scale it had a catastrophic character to it, on a small scale. The Challenger explosion, a year ago. And the one that I have in mind in particular--well, of course, the Soviet invasion of Afghanistan, about which we know very little in decision-making terms, would be an example, generally unexpected to people, out of character for the Soviets....The Cuban Missile Crisis burst on the world in a very unexpected way. And in particular, one that I lived through very much as an insider, and that was the escalation of the Vietnam war in 1965 in two stages, I am going to emphasize the second one. First, in February of '65, the undertaking of essentially open-ended () of North Vietnam, a country with which we were previously distinctly not at war, and against whom an intention of war was never declared. We started a program which came to involve dropping more tonnage on all of Indochina--four times as much tonnage--as all of World War II. We dropped 2 million tons in all theaters of WWII, Asia and Europe. We dropped, under Lyndon Johnson between '65 and '68, 3.2 million tons of bombs, at which point most people felt that the war had effectively ended, and from then on it was going down, it was ending, from nearly everyone's point of view, after Johnson left the race in March of '68, began to negotiate toward the end of the

year. And if you look at most history to this day, the war is generally perceived as being effectively over, the Pentagon Papers chose to end in March of '68, thinking that from here on, (things were winding down). Between '69 and '72, Nixon and Kissenger dropped 4.5 million tons of bombs--2 more WWII's. More than 2 WWII's--on Indochina alone (which, by the way, had been bombed in WWII, along with quite a few other places. So close to 7.5 million tons of bombs, then, dropped in that process. I was very familiar with the day to day process with which that bombing got started, launched. And I have to tell you, it had a degree of puzzle, paradox, at the time--why is this happening, what was expected--that persists with me now. What I am going to share with you today are not definite conclusions as to how these things happen, but some conjectures. I'm still working at it, 20 years later.

The decision I am going to look at more closely, because there is new data available, is one that I was very involved in, one that came later, in July. Strangely enough, when the bombing started, definitely no decision had been made yet to put troops in. It's strange, but that is an aspect, a peculiarity, of the decision-making. No one could have predicted with high confidence that troops would follow the bombing, inside. But in fact they did move very quickly in that direction. By June they had some 75,000 troops. In July Johnson made a secret decision which he did not announce, it was known on the inside, to go essentially for open-ended troop commitment and combat involvement in Vietnam, taking on then the past of the war on himself, away from the Vietnamese whom we had supposedly been supporting before (?), concealing the number of troops he was actually authorizing in the announcement that he made of the decision--I wrote, by the way, a speech that was to be given by McNamara announcing that he was sending 100,000 troops, mobilizing reserves...My speech was cleared by McNamara and by Rusk, it was to be given by McNamara.

But in the end the President chose not to give that speech. He had scheduled a press conference for the afternoon, and mentioned almost in passing, "We are sending 50,000 troops now; more will be sent as requested." As of that morning, I understood the decision to be that we were sending 100,000 now, another 100,000 at the start of the year, with the clear understanding that it was going up to 400,000-500,000 if necessary, and we were

mobilizing. So I remember asking my boss, Has he changed the decision? Better look into it, find out what is happening." The decision had not changed, merely his description of it to the public. He chose to conceal, and the public never did have a consciousness of just what had happened on July 28, 1965. The decisive change in our goal, in our involvement in the war, and the prospects for the next two years (or the next ten years, because the war took 10 years to end) had changed that afternoon. The public did not make much fuss about it, was not much aware of it at all. Secrecy, of course, had some effect on the way the thing was received. The public, in the end, did feel somehow misled as the thing grew. But the main understanding of the way that we had gotten increasingly involved emerged with what I call the Quagmire Myth, because of the title of a book by David Halberstein, The Making of a Quagmire. The reigning understanding before the Pentagon Papers came out of how we got so heavily involved was that the military had on each occasion told each successive president--Eisenhower, Kennedy, and then Johnson--that the war was almost about to be won, if you only made a small increase in commitment. Send advisors and aid to Diem, a few combat troops--another 50,000, another 100,000--light was at the end of the tunnel, this would bring us to the end of the tunnel. Success was in sight. And the President hadn't been watching too closely, hadn't thought too much about this, relied on his military advisors, and thus moved into this quagmire step by step without knowing what he was doing.

The Pentagon Papers showed me that that was false. Exactly why the President had done what he had done was not clear, and to some extent it is still not clear to me today. But what is clear was that he had not taken these actions on the basis of assurances that what he was doing would succeed. On the contrary, the documents that I released eventually in the Pentagon Papers (I shared with the Senate, and then with the newspapers) showed that the Pentagon, on nearly every occasion, and the CIA, and the State Department advisors, had told the President nothing other than that what he was planning to do would probably not succeed. Very strange. It put great responsibility on the President's decision to go ahead, and didn't make clear why he was doing it. But what was clear was that the usual account was wrong.

A few minor phenomena in the course of this which have always puzzled me, and that's what I am coming to now....I was struck

very much--First of all, a book came out by Larry Berman called Planning a Tragedy, with new White House documentation on the advice the President got from his closest civilian advisors, that we had not had in writing the Pentagon Papers (I had worked on writing this history of decision-making, before I put it out, and I had authorized access to it to learn lessons from Vietnam). But this new book by Berman has new data now on what the President was hearing. He was left, in 1969, with this puzzle: Why had the President gone ahead, in the face of these predictions of the unlikelihood of success, with the enormous costs that lay ahead for him?

There were various possibilities, conjectures, that people played with. What Berman shows is something quite extraordinary--it is not out of line with what I just said, but it pins it down to a very startling degree. The President was told, it turns out, by not just George Ball, whose dissent had been known earlier, it had leaked out eventually, it was known the George Ball, the Undersecretary of State, had been in some way critical of the escalation. What Berman shows with the memos is that on the one hand, Ball's memos were extraordinary prescient in detail, in exactly what was going to happen, what the problems were, why the thing was heading for a stalemate of enormous proportions, that is as early as 1961, under Kennedy. Five hundred thousand troops lay ahead. But as I say, his argument as to why that was the case was far more detailed and persuasive to look at than had been released earlier. But what is more striking is to discover that Ball was not alone. People who have worked on this, including, the Pentagon Papers, had the impression that Ball was ultimately overruled because he was alone, his own superiors disagreed with him, nobody else agreed with him, and therefore the President, as was understandable, just didn't listen.

The same views, it turned out (this book is only a couple of years old) were expressed in considerable detail by McGeorge Bundy, who was the President's advisor for national security affairs. Moreover, on the eve of the July 28 decision, they were described by Clark Clifford, who was probably the most trusted advisor any of these presidents had, he had been around since the Truman era, known invariably as a hawk, had said that what Johnson was proposing to do in terms of putting in 100,000 with the commitment to put in any number if needed, was, in Clifford's terms, "catastrophic". Same phrase, almost, as used by McGeorge

Bundy in referring to McNamara's proposal. He said, "Your proposal seems to me reckless to the point of folly." Now in the entire 7,000 pages of top secret material in the Pentagon Papers, which I read many times, I do not recall a single instance that emerges in that somewhat lower-level paper-writing of a Cabinet-level official using that kind of language, that kind of etiquette. It seems sharp. In retrospect, when one looks at it, it is not only sharp, but amazingly right. He goes on in detail--what will go wrong, what the problems are, what is not being examined. The questions McNamara had not addressed. What is the ultimate cost? How will you abate it? How will you prevent the Vietcong, for example, from matching your commitment on the ground so the stalemate is preserved? How will you be able to force the guerillas into combat in the jungle? Can they not control their rate of casualties? Can you really force attrition on them? There are detailed questions like that--logistics aspects.

The point being: in the first place, what are your answers? say Ball and McNamara [Clifford?] . And on the other hand, conjecturing what the answers are, quite likely in retrospect, [] an absolutely hopeless and quite catastrophic course of action. Johnson turns again, again just before the decision, it turns out, not known before, to his closest advisors in the Senate, where he had been the leader for many years, the people he most relied on. People like Mansfield, Russell, Fullbright, Aiken, a number of others. Again the term they used just before his decision was: "Catastrophic." I do not remember that word coming up in print in the Pentagon Papers anywhere. But that was a word that was given to him, a number of other people presenting this to the President.

Let me bring this up to our current situation. I had planned to emphasize the Vietnam decisions to apply some of these concepts, and one other, the Challenger. But let me to bring it up to one that is in the papers right now. The situation which I am describing, as it comes to public view, appears disastrously wrong, though not yet on the scale of the escalation into Vietnam. But horribly wrong. Enlarging a war, going against principles, violating laws, lying to the public in ways that threaten the destruction of an administration. Let me--I have been studying the current situation closely enough, let me just conjecture. This administration is going to be destroyed by the Iran and Contragate scandal. The dimensions of it, as I have been looking

into it over the last few months (I have just come back from Washington) have only slightly emerged. And this administration is going to be ground to bits by this action. Most of the people in it are going to be facing the real threat of prosecution, as was the case in Watergate, and for reasons far more consequential. Again, in a situation where the administration has been on a course of action that exposed it to this danger (I am talking now not about a societal danger but an administration danger)...but it is not a single shot decision that was made. A course of action over a couple of years, with a lot of planning and decision-making going into it, that exposed it to this danger, in a context where, to the outside eye, it is hard to understand why such a risky course was even contemplated, even considered at all. The benefits of the course that one can observe, the only one that has really come out, the main one that has come out is saving a handful of hostages, which in public the President had in effect written off, with no political cost to himself, early on; or the extremely tendentious goal, perhaps, of establishing relations with moderate elements, and so forth--for this did he risk what will, in all probability, happen--the destruction of the administration--how could this have happened? One looks at it with the first thought that somehow there has been a failure process below the President. It must have been. The President has either been, as in the Quagmire Myth, totally misled by his advisors or his estimators, and somehow allowed to wander into a field where he should never have been. Or...what? A President who is peculiarly absent. We are now hypothesizing about the peculiarities of Reagan's psyche, his distance from reality, and so forth. Maybe he was drugged from his operation, and so forth. But as the decision-making begins to come out, one finds two different kinds of phenomena in the decision process that are on the one hand specific, paradoxical that either of them should be there, let alone both, in this context; but third, not at all peculiar to the Reagan administration, that is my point. Namely, in fact, two types of things. One: high-level estimates and advice that have a very peculiar character to them. I am talking now about the January 27, 1986 finding which was released by the Administration, supposedly to bolster their point that they were also looking at geopolitical relations with Iran, but which everybody noticed mainly bolstered the point that the hostages were uppermost in the mind of the Administration. What one notices looking at this, and anybody who has looked at it has pointed this out, it is a very strange decision document. The

goal is mentioned, namely getting the hostages. And essentially none of the risks, none of the costs, none of the possible problems with this, none of the problems of breaking laws, of causing the Allies to feel betrayed, the possibility that the Iran-Iraq war will be extended by this, the possibility which we are now encountering that more hostages will be taken as a result of this action....None of these were mentioned in the findings. What is mentioned is the following sentence, among other things: "You will recall that Secretary Schultz, Secretary Weinberger...have not recommended this course of action." Why not? What are the arguments? What are the answers to the arguments? There is nothing. He is not reminded of that. It is a strange looking document. As I say, many people have commented on that, raising questions about the nature of decision-making in this administration. If even one such document should ever exist, advising on a major policy issue, telling its possible advantages without mentioning the possible disadvantages and costs and opposition by the Cabinet level, and recommending that the President sign it [the President, by the way, there is no evidence that he actually read it. It was orally briefed to him, but he didn't actually even sign it. It was signed for the President by Poindexter.]

Well, that at least starts suggesting possible explanation of the President's decision, namely that he has allowed a decision process to occur which is so fatally flawed and ineffective that risky and fatal policy emerged from it. That pushes the question that, even given Reagan's personality, how did he find 5 people who could bring themselves to write papers like this?

When I read that paper, it was very familiar to me. It had the character of major, high-level, top-secret decision papers at nearly every crisis point in the Vietnam war. It had a pattern which emerged so constantly in studying the Pentagon Papers, a 7,000, 43 volumes of U.S. decision-making from 1945-1968. So it was a comparative study of U.S. decision-making, longitudinally in time, such as probably doesn't exist in any other field. There are not a lot of comparisons. But one thing that came up for everybody studying every given period (they did it by period mostly) was that in that period that they discovered that the pattern of decision coming up so commonly that I called it the Proposal Pattern, or more specifically, the Desperate Proposal

Pattern. DPP--it's all over my notes, DPP, as in this case-- because it did appear in situations that could be called desperate. And that is part of the answer, probably. Mainly, a proposal that, from a decision-theory point of view, is simply bizarre. It describes a rather clearly consequential course of action as being recommended because it has a chance of working. But no mention of how much it costs, how big is the chance, what happens if it doesn't work, etc. Or because it is necessary to success. And that is essentially all that is said for it. Do this because it is necessary for success. It won't work without it. No guarantee is given that it will work, by the way. In many cases, not even any high probability is assigned. So very clear [prescience?] against the quagmire myth theory. A tendency to say, "We don't know what it will take, but this is necessary. Do it." Without, as I say, any warning at all. The exact format of this strange Poindexter/North memo, on the one hand.

But: as one goes further into the decision-making (I am referring here to the Berman case, in Vietnam) and what we now know of Iran simultaneously, and not reflected in that high-level paper, we discover that people, quite secretly (why so secret is another question) have, in fact, been making very detailed estimates of all the things that were left out of the first paper, the Desperate Proposal Pattern. They do look at the alternatives, do give some estimate of probabilities of the total costs. They challenge their bureaucratic opponents to answer these. In effect, one looks at this and says that the first pattern of Poindexter/North was not characteristic of the President's staffing. Actually, although that didn't show it, he really did have all the advice needed.

But then we have a new paradox: how could he have gone ahead? Because this new advice, essentially unchallenged, the disastrous policy, the new advice from critics of that policy points to such enormous catastrophic costs compared to any possible benefit, to such high likelihood of sustaining those costs, that it is absolutely mind boggling. I can say that I read the Berman book, which I recommend to you. It is fascinating and enlightening, but I find it totally puzzling--I'm more puzzled than I have been in 20 years--how did this advice.....Various analyses like that he didn't listen to Ball. But he had to listen to Clark Clifford, he had to listen to McGeorge Bundy, and he had to have noticed that McNamara wasn't answering any of their questions. How did it

happened? What happened? It happened.

Again, as I say, in Irangate it is very similar: Schultz, Weinberger, made very cogent criticisms. CIA made the criticisms. They were available at the highest levels.

Let me suggest that there is a pattern here that is not peculiar to the personality of one President. And undoubtedly, not peculiar to a party, not peculiar to alone the decisions of war and peace, I suggest, and not peculiar to the United States. Namely, that policies that fail catastrophically do happen, even when they are not expected by the public, with some regularity. Second, when they do happen, in a large number of cases, a sizeable number of cases, they are found to have been preceded by staff work and advising that in fact has, taken as a whole, been quite realistic, projected the catastrophe as probable, in some people's terms, certain or almost certain in other's--others certainly disagreeing with that. But no one disagreeing in a real possibility of this disaster. Thus, the President, making the decision, has a choice of a conscious risk of catastrophe. Third, this does not happen only when one might expect it, in a wartime situation, let's say, or an invasion from Mars or something, where obviously every alternative the President is facing has some potential for catastrophe--he is facing a determined, massive, strong adversary that has the potential for pinning him to the ground and causing catastrophe--there is a situation where setbacks occur on one side or the other in a major war, inevitably. That is not what we are talking about. We are talking about situations where the gamble has been undertaken where there would seem to have been alternatives pressed by some high level advisors that had no potential for such disaster at all, where one could barely have averted any chance, let alone a major chance, of this catastrophe.

Which leaves you with a puzzle. Let me apply that, for example, very briefly, to one final real world example. When the Challenger exploded, the first assumptions were that this was an event--Amos was telling me earlier--a possible lower limit of a practical probability may be, say 10 to the minus third. Why? Because that is the chance of a person dying in an operation: one in a thousand. A patient dying in an operation when everything has been done right, done as well as possible, done right, but the

patient dies. Everybody knows there is some chance of that. The chance is about one in a thousand. It may be that people do not estimate things much lower than that, practically speaking.

When the Challenger blew up, the first assumption was, "Well, the chance was of course worse than that, it was a risky technology, but we assume everything was done right, everything was prepared as well as possible, everything was calculated, and this was one of those times. It came a little sooner than it might have come, it might have taken a thousand years to happen, but it happened to happen just now, like Three Mile Island should have taken ten thousand years, it happened to happen now,...the public senses in such a situation that the experts' higher assurances about the impossibility of this, as in Three Mile Island, were wrong in some sense. The risk was higher than they realized, or it wouldn't have happened so soon. Chernobyl is another.

But nevertheless, that is still compatible with assuming they made a mistake. Engineers are human too. They had judged the risk to be negligible; they shouldn't have done it. And what do we find when we look at the Challenger? By the way, the first things that came out were: "We don't know why it exploded; we can't think of any particular reason." As it came to seem that the seals, the O-rings were flawed, no one could have foreseen this, no one had any knowledge of any conditions which would make this more likely, and so forth. And then, as the decision-making is examined, we find steadily, we are still finding additional evidence, marked by (money), that they know that an O-ring problem had brought them close to catastrophe a number of times before. They had been studying it for years, a couple of years, they had been planning fixes of this for years, but putting them off. Warnings had taken place continuously that they were a risk. They were crossing their fingers every time, at the supposedly highest level of our technology (). And in the final instance, Thiokol, the engineers who had to OK the launch, had for the first time in history been the ones to say the launch must be scrubbed. It was always NASA. And on this occasion the Thiokol people said, because they were worried about the unprecedented cold, and the concern of the experts about the relation between cold and the O-rings. "This launch must not go." These were the highest level people. A unique instance, then, where NASA is confronting that advice. They routinely scrubbed flights. It had

happened with this very flight, several times before. If they have had advice...usually NASA...if there is anything wrong, any possibility wrong, wait until tomorrow, wait until next week. On this one night, confronting unique advice that this particular launch must not happen, they were essentially overruled. Thiokol managers, made to fear for their contract from NASA if they were to stand in the way, overruled their own engineers and give an OK. And what happens the next day is not out of the blue, to the engineers. It is what they have been fearing and had now a peak of fear on that particular launch.

You see a certain parallel here. The situation, then, is not what one first imagines. But how? How could this have happened, once? How did this () get taken? Well, I do not have a precise answer. I can conjecture. But you see that I am putting it into a class of cases and saying, that is not, in fact so unusual that this is what happens. It of course bears on my sense of why nuclear war can happen in certain ways that other people think would be quite out of the question.

Now, for some application of these new concepts that suggest, what they suggested to me. I really got interested--actually, I read the Kahneman and Tversky by coincidence within weeks of the Challenger accident, and it all came together for me. And a secondary phenomenon that struck me in both of them--it had already struck me before I read the Kahneman and Tversky stuff--namely, the advisors in question--Ball on the one hand, and Clifford on the other--Ball did mostly arguing--and the Thiokol engineers, one of them whom just last week has filed a suit for a million dollars in damages against Thiokol, Boisjoly. The man psychologically cannot recover from the fact that he was not vehement enough, that his advice was overruled, and he was later punished for having given the right advice, another phenomenon that is common to these things. Ball left the government. McGeorge Bundy left the government. Humphrey, who had been giving the same advice to Johnson about the bombing, was put in limbo for months. He was not allowed into meetings. Johnson did not speak to him for months after he had told him the risks

receiving--another aspect of the process.

But what they both reported in almost the same language was very striking. They both said, to my amazement, they found that

the burden of proof had shifted onto them--Ball on the one hand, Boisjoly on the other--to prove that the catastrophe that they were projecting as almost certain or highly likely, or they would have thought it was enough to say "possible", to rule it out. But they actually thought it was highly likely. They were being asked to prove that it was certain. They were themselves baffled by the situation.

The Thiekol people said, in early hearings, it leaped out at me because I had just seen the same words in the account of Ball. They said, we have never before born the burden of proof as to why this launch must go. The burden of proof always was that it should go. All of a sudden you are having to prove that it shouldn't go, despite the disparity in the reward--whether you get it off tomorrow--vs. the possible cost of it blowing up. Likewise, Ball could never really fathom why, how the President put him in the position of saying, "George, how do you know that we can't win? How do you know this will get up to this level of escalation for sure?" That seemed an interesting analogy there.

The same situation, by the way, seems to have arisen in the Iranagate in many ways, where people who objected and warned were simply pushed out of the process, essentially. Others who weren't promising--the Israelis were saying "This has at best a 25% chance of success." No estimate of the cost of the failure, what happens if the other 75% takes place, seemed to be needed. The burden of proof is on those who say that it is more than 25%, or it has to fail.

I find, to sum up here--we'll get into the discussion--let me suggest some aspects of this that come right from the Kahneman and Tversky kind of analysis that seemed to me to put these decisions into a much larger context of decision making under uncertainty. A major departure of the Kahneman and Tversky prospect theory model is its emphasis on, on the one hand, its division of possible payoffs into gains and losses, as opposed to ultimately accumulated assets. But the evaluation of consequences where those consequences are perceived and evaluated as gains and losses from some reference point, a status quo position, a current policy, some position point or other. The importance of this being that the kinds of risks taken, especially where only gains

are possible, where one is choosing between alternative possible gains, and the

There is a systematic difference in the pattern of gambles that are taken in those two situations. An Orthodox, Avazian and Savage decision theory, subjective probability theory, this phenomenon should not occur, does not occur. This dimension of gains and losses--in effect they are either zero in their status quo reference point, in their payoff function. A meaningful zero, with a meaningful set of negative meanings that are possible--which as you know, in [Morganstein and Tory], is not the case. Those are determined up to a linear transformation [move to zero anyway, it shouldn't affect the choices that are made.

Specifically, what caught my eye in reading these empirical studies of people's choices, at least in hypothetical situations, and some not hypothetical, is that risk-seeking takes place, in particular, in the domain of losses. In order to avoid a small loss--let me specify the thing a little more, and then I'll try to give general assumptions. This is combined with the certainty effect, I will mention the two together. An emphasis on the possibility of a certain outcome conceived and formalized as, under one course of action, sure to occur. In the area of games, thinking now--let's talk in terms of money outcome--an assurance of, let's say, \$100 tends to be preferred to a gamble with the same mathematical expectation of money--let's say, to a 50-50 chance of zero or \$100.

The opposite is true, it turns out, in looking at the possibility of losses. In effect, people are averse to certainty if the certainty is of a loss. Rather than take that particular loss for certain, they will take a gamble with a chance of coming out even, and a chance of a much worse outcome whose mathematical probability, to the extent you can measure probability in this situation, is much worse than that certain outcome. He will act as though it is very important to come out to avoid the certainty of that loss.

This is a phenomenon that again has no counterpart in the Morgenstern or Savage axioms. But looking back at the decision theory, I noticed in each case something that had not leaped out at me before. In Ball's case in particular, you could see it was very highly prejudiced against him, in the eyes of the President and others, by something that he almost conceded, and drew very little discussion. And that was that on the course he recommended, which was getting out, cutting our losses before we committed these enormous numbers of ground troops, that was a sure loss. It was regarded by Ball as not very large. There was some argument as to just how bad it would be. In his eyes it had no comparison to what would happen if we went in and failed, or even succeeded five years later, with the hundreds of thousands of troops and many tens of thousands of casualties. There is no comparison between the two. But he did concede that it was a loss, and there was no way to avoid that pulling out.

From the point of view of [], one would guess right away that he was greatly weakening his position when he was presenting the President with the sure loss, if that loss, especially, might look fairly significant to the President, a point I am going to go back to. The fact, in other words, that on the one hand the course the President was taking was a gamble, what looked like to Ball a horrible gamble, but what Ball was proposing and what the President was rejecting was a certainty--a certainty of loss. We are in the domain of loss. Tversky and others would say, that creates a possibility that the decision-maker will, since these results are not well known, not [intuitive] to people generally, will produce a surprising willingness to gamble on the part of the decision maker.

Let me add a couple more points which I think make the analysis more applicable. Of course I should say one more thing...Given the Tversky analysis, which most of you are familiar with, I wished again to look back at the decision making data. I noticed something that Ball himself almost dismissed, paid very little attention to, and which didn't get a whole lot of discussion, in fact. And that was the possibility of success, that there was a possibility of success. Ball regarded this as so unlikely, as did others, that they said, "Almost certain to fail." They paid very little attention to the possibility. But in fact, the argument one finds made against Ball is that his approach is certain to fail, it is made almost offhandedly, but

one sees, when you look at the whole texture of the decision making at very crucial points, and that there is no other way to succeed than this particular one, which only has a small chance of succeeding, even though combined with this large chance of failing. What does that do?

Now, under most--I almost--in first looking at it, thought that that little chance couldn't attract anybody's attention too much. It seemed so unlikely. Of course, I am looking at it in retrospect, we know how badly we failed. I know, from years over there, that that chance was less than anyone imagined, less than Ball imagined. A chance, by the way, estimated rather lowly by my former boss, John McNaughten, who gave estimates of probability. They were only 10%, 20%. So he was not being terribly optimistic. Except that that was wrong. It was zero. It was negative. It was something that was not 10%. But 10% is not offering too much. Could that have been that important? The Tversky-Kahneman work, confirmed now by many others, tells me that in more or less routine decision making, much less scale as well as decisions like this, one does find, surprisingly, that pattern. Given a certainty of loss--and now, let me add, the element, two elements that are not in the analysis that I think need to be added to apply it here--The sure loss was an immediate loss, a short term loss. Neither the [-Morganstern] ...Savage on the one hand, and Tversky on the other, give much explicit attention to the dimension of time. I suggest this acts not only in the way of time preference, the familiar way, but in a couple of other ways that have been much less appreciated.

For one thing, I conjecture that when you are looking at a long-term effect, several years away, beyond the next election, beyond the President's last election, that is long-term. The uncertainties are clearly greater, and--I'm not going to say much about this, but--the ambiguity, a concept that I worked on 25 years ago, the ambiguity is greater for that long term []. In effect, a President...any event looked at long-term cannot be said to be certain with the same confidence, with the same sharpness. As short-term events are conceded, both sides of an issue, people will concede that a certain event is certain in a certain short run. Controversy arises in the moment, and is inevitable, and anybody who says he can say for certain what will happen in the long run is disbelieved, especially by people with

experience, because they know the uncertainties are greater than that.

I will add one further concrete []. To a politician, the statement that long-run failure of the United States is certain or almost certain is just to be ruled out. It is unthinkable. It has got to be wrong. I might say, by the way, part of the Tversky analysis is that small probabilities, whether small probabilities of success or small probabilities of failure, tend to be exaggerated. This is a probability, but you weight it as if it were larger. So the notion that there is a small chance of a win will be enlarged by most people--I am adding something to that. If you are talking about a small chance of success in the long run, the President is going to say, "Small chance--phoeey. Large chance!" Not only does he not recognize it as small chance, he is going to say, "It's ridiculous. The U.S. can't lose, if you are really talking the long run. If you are talking will, if you are talking enough resources, the U.S. has got to be able to find a way through this. It may not be worth it. We can fail. But if it fails the President will be the first to admit, with his enemies, "If it fails in the long run, some big mistake has been made. Some incompetence, some failure of will. We just didn't choose to pay the money."

So Ball's statement that there was no way for the President to succeed runs up against the Kahneman-Tversky notion that a small probability of success in the long run--I say especially in the long run--is going to look larger to the people who are interested in it. Second, it is going to look especially larger to the can-do President who has gotten to that job by passing a number of lotteries, a dozen, let's just say the primary campaign alone--he is the guy who emerged, let's say, from ten competitors who succeeded at every point in defying predictions of disaster. One of the ten comes up and now wins, time after time. It is hard to predict which one, in fact. But he knows that it is because of his inner fortune, his competence and so forth, he knows he can't lose. He's never lost yet. And that is who gets to be President. That is how you get to be President. This is an empirical observation.

So the President didn't believe Ball, when Ball said it was almost certain in the long run. Second point: given the certainty of sure failure, with what Ball was proposing, that possibility

of success looms especially large in the general certainty effect and risk aversion, in the domain of losses, that we are talking about in Tversky.

Third, the proposal that the President did follow ruled out short term failure. That went from one, which everybody agreed, to zero. Here I think, by the way, the short-term aspect left out of most of these theories is of enormous importance. If there was no way to make it uncertain, I would conjecture that something that reduced the likelihood of short-term loss to less than that would again have a lot going for it, even if it were very cautious. If something had reduced it from one to zero if what you are looking for, and you are ready to pay an awful lot for that in long-term terms...but between the various options that would do that and there were various ways of avoiding short-term failure in Vietnam, you could have put in 100,000 troops and stuck there, not an open ended commitment. That was proposed by some people. I will mention two things about that proposal which I was very conscious of as the alternative at the time to the one that Johnson chose. One, it had no chance of winning, and nobody said it did. It had zero chance of winning in the longer run, as opposed to the one he chose, which was more dangerous and more committing and costly, but it did have a chance of winning. It was not a no-win strategy. And second, less obvious, the hundred thousand troops was very costly, would take a lot of casualties. It would not lose in Vietnam before the next election, in fact ever. But it in fact would lose him the next election. He could not stay there with a hundred or two hundred thousand troops and in 1968 show no-win and no prospect of a win, and get reelected. It cost too much. Earlier, he could say, Kennedy could put in advisors, and that was all it took to keep him from losing. And you could stay with advisors forever, and the public would never be a factor in the elections. When the time came that the way to avoid losing involved as many as a hundred thousand troops and

1, merely not losing is no longer good enough to keep your job. The cost is too great. The public says, if you are going to put that many in, you have got to win. MacArthur's statement, which a few of us my age or older will remember, most of you may not know, about Korea: "In war there is no substitute for victory," is not true in a military sense. We did not win in Korea, for example, the Russians are not winning in Afghanistan....But in any case, the state collapsing, total catastrophe's falling, if there is a substitute--But for

politicians, political leaders, that is true. For political leaders, in war there is no substitute for victory because something big enough to call a war had better end, if you want to keep your office, and end soon enough, and with a victory of some sort, or you lose your job. That is not catastrophic from the point of view of society. The President is replaced by somebody else. The General Secretary is replaced. He loses in Cuba Khrushchev, he loses in Taiwan. So they replace him.

The last point I want to make to add to the analysis is this. Let me specify a situation in which a sure loss (we are talking about organizational leaders here, not just individual gamblers in the stock market) the sure loss we are looking at is defined, has the character, that it loses the decision maker's job. This could be applied at various levels to the bureaucracy, but let me emphasize the top, the President. It is one that severely threatens his ability to win the next election, for one reason or another.

That may not amount to very much from the point of view of the society: the loss of even the military, even his right wing backers or his left wing backers, whoever, any of the given interest groups could live with a different representative in office. They could live with the failure, the setback that is represented by losing control of Matsu and Quemoy in the Taiwan Straits Crisis, by losing Vietnam before we put troops in or even after we put troops in. The country has survived that as a country: the Pentagon has survived that. But Nixon did not survive it. Johnson did not survive it. Conjecture: in certain situations, a very great gap appears between the utility functions of interest groups that are dominant in putting people into office, whether you think of them as public or particular interest groups, any of them, and the man holding the office, in that certain outcome which, to the society as a whole is perhaps undesirable, perhaps almost indifferent, but has a very specific meaning to the leader which is: if that happens, I don't get reelected. If it happens now, before the next election, I don't get reelected. I'd conjecture, these examples, that there's a tendency for that top level person in the bureaucracy - this could apply to NASA for example - to regard that as a catastrophe comparable to any other catastrophe, maybe not as bad as total nuclear war but one for which you will risk societal catastrophes,

in effect as if utilities were not exactly the same but rather comparable, in the ballpark.

I put the various elements together: short run - sure loss under a current policy, or a status quo type of policy for which the only alternative which offers a chance of avoiding that loss is one that in fact, predictably (obviously the same could apply if this were not known)--predictably, involves enormous potential risks for the society as a whole, but also some chance of avoiding this particular loss. I add to it that the loss has its significance--for one of many reason we can conjecture--of losing the job for that person, thus treated as a fairly significant sure loss. Given the --I emphasize the "sure" because of the results in Tversky that show how that certainty does glow in the loss domain as compared to the gambles that might work. I think you have a recipe there for a choice in pretty much awareness by the decision maker, the top decision maker, of an extremely risky action--one that not only has a possibility of catastrophic results, but a predicted likelihood, though not a certainty, of that catastrophe. And the predictions often, though not always, turn out to be right and catastrophe ensues.

Just in one sentence I'll say, the kind of catastrophe that could involve is the use, the intervention into an area where one might find oneself in a war with the Soviet Union but might not, but rather likely will, and a willingness to do it, despite that risk: the willingness to use one tactical nuclear weapon or a few tactical nuclear weapons. Obvious risks, either against the Soviet Union or against the Soviet Union's allies, with the possibility, even the likelihood of reply, but not the certainty. Could such choices ever get made by the types of people who hold political office in this or other countries? And I say yes, in this country and in other countries and in all the countries who have the bomb and in all the countries who are getting the bomb and that's why I worry a lot about where technology is taking us and where the arms race is taking us.

I think that what we have finally --I'll sum up; this is all the original, conjectural, here you can see-- but we have the possibility in what we're seeing in the Kahneman/Tversky work and other --their reading list, references, which I'm benefitting by-- is extremely exciting to me, the possibility of an empirical

understanding of how people do make decisions. I've added a couple elements, but that's the point of the analysis, it suggests ways of extending and new questions to be asked...a possibility for an empirical understanding of how people do choose, under uncertainty, in risky situations, which is most of the time, near virtually all the time, that will actual contribute to our understanding of major organizational and human behavior in the very domain that is most ominous in the present era, the possibility that we will someday carry out non-nuclear plans and later nuclear plans that have been, on one side or the other, prepared for years, that have led to design, development and deployment of weapons for years, and finally plans get used in exactly the way their contingency aspects contemplate, in the most purposive way, the process of constructing a catastrophe which has been going on for forty years, might come to fruition and these giant mousetraps which have been constructed, might actually go off. If we understand it, of course the hope is, that it won't just be to give us that flicker of satisfaction in our intellectual comprehension as the flashes begin to appear, but really that we will be able to act more effectively to change this process. I believe a lot has to be changed and I believe a lot can be changed, because we are human and where there's light there's hope. Thank you. (Applause).

Question: Do you think there's some type of structure within...I mean what can we do?

Answer: Yes, that is a very pertinent thought, first because ...well, the concrete suggestion I've made is that the temptation to take these risky gambles is in the end, in the actual circumstance in which it occurs, a quite personal decision in the sense that it reflects the subjective calculations and positions of a given decision maker who feels himself to be highly accountable for his decisions to a public, to a constituency and suceptable to losing his job because of his configuration of... Almost anybody else in the society might see the thing differently, not feeling the same accountability. Of course to the extent you share responsibility, you get two people who begin to feel accountable still share a little.

Our situation, by the way, puts more feeling of responsibility and more direct accountability on the President than almost any other system, definitely more than the Russian system, for example, which has a much more collegial aspect to decision making than ours and is generally thought to result in a somewhat more conservative decision making...since Stalin. In fact, they instituted that to defend against, to defend themselves against the peculiarities of catastrophic decision making by Stalin, by one man. Well, every Russian leader who goes delves with us in negotiation is astounded at the freedom of his counterpart to come up with proposals, to make deals, to offer without having to call anybody on the phone, to check, compared to what he has to do. However, obviously, we look at Afghanistan, we look at Chernobyl. Is the Russian system sufficient protection for conservatism?

Chernobyl is very interesting on that when you see the choices. You know, once again, on Chernobyl as in the pattern I'm describing, one discovers, Chernobyl was not without prediction. Chernobyl was a plant that had had problems for months beforehand. They saw the problems with it: they were choosing in various ways: it was chosen, constructed catastrophe waiting to happen in the Russian system without profit motives. We know that their pollution aspect...you wouldn't expect me to pose the Russian system as the counterpart although as the way to improve ourselves, but it is plausible to imagine to go to a somewhat more collegial approach, which you suggested, make the vice-president partly to this and so forth. Have more cabinet members making decisions. I'm saying that's slightly promising but not enormously because, in the end, especially in our system, people do remain very beholden to the President in our Presidential system.

The alternative though, structurally, I would say, is this: There would seem to be a good deal of hope in democracy, in opening this now to the judging of people's who feel, individually and in groups, very much less responsible and accountable for a given failure and therefore much more easily able to contemplate cutting losses if a program has gone wrong, if predictions have not turned out...if predictions are turning out right and it's going badly, shifting course without themselves feeling that they will lose office. I speak of Congress, both parties, courts, press, the public in general, unions. The more exposure there is

of these policies, the less--I think in every case--the less you would find that these extraordinary catastrophes would have occurred. One is welcome to look for catastrophes and say well, this really would have occurred no matter if everybody looked at it; it's not their responsibility. Hard to find one. The real catastrophes...the government on the whole is not designed to reduce catastrophe. It does it only in special circumstances. But in those circumstances it's hard to cure within the executive branch itself. The president, part of his instrumentality here, is secrecy. He gets away with protecting his position at the cost of taking enormous risks only to the extent he can keep his decisionmaking very secret. The secrecy breeds this kind of situation in which only a very small number of people bring their judgement to bear on the actual decisions. Only a small number of people are called in to express judgement and they are so subject to the president and he's able to ignore or choose to ignore this one or that one or... When the situation is much more open, people not only express different judgements, but they are much noisier about it, they take action to block the president, which bureaucrats do do occasionally but often at great risk, and people outside don't take the same risks as them.

People tomorrow are going to be putting their bodies, or plan--they expect to do tests tomorrow two nuclear tests, they ran it two days earlier to undercut them--to say as loudly as possible in a way that cannot be ignored, "Not only do most Americans want there to be a test ban, something like 60 to 80%, but a lot of Americans want that so strongly they will take buses, they will put their bodies on the line, they will get arrested, they will go to jail, to get an audience and a hearing for their statement that we should join the Soviet moratorium, that we should not be testing in a way that will turn on the Soviet testing."

I haven't talked much about this but, what is the possible help of that? Well, telling it to the president is not telling the president anything that he probably has not heard from any of his advisors. I am certain that many people in the administration have said individually, forcefully, from CIA and elsewhere: it is to our advantage to have this test ban. Fewer in this administration than in others, but some. He's heard it. He doesn't need to hear it from people. Congress needs to get a sense--there will be ten Congressmen out there tomorrow for the first time--that people care enough about this that they should

use their built-in Constitutional role, to act on their judgement that there should be a test ban by cutting off the funds so long as the Soviets are not testing, by blocking the President. They are free to do that with less danger than a person in the administration who loses his job if he does that when the president doesn't want it. They're not going to lose their jobs. And what these people are out there are telling them is, "Listen to your constituents, this is a popular...you won't lose your job. You might even lose it if you don't do this. That's the way the Vietnam war got stopped.

I think there is learning involved here. This is a long answer to your question but obviously we're interested in how we could change the process, and I'm suggesting: learning has taken place from the Vietnam war. Cyrus Vance learned that it was not enough to tell the President, "If you bomb Iran--if you start a process of bombing in connection with the hostage raid--you will fail. He knew it would fail because he, like me, experienced in Vietnam...promised again and again by the military that this would work: it didn't work. So, he knew it probably wouldn't work, had a high likelihood of not working. He also did something he'd learned from the Vietnam war, he resigned--something Schultz still has not done. So Schultz didn't stop the Iran-gate... but Vance learned something that Schultz wasn't willing to do, wasn't ready to learn. The people who are doing the civil disobedience tomorrow learned from Vietnam that the Congress has the power to block the President if it is important enough and can be induced to do it by a widespread movement that includes campaigning, lobbying, electoral work, letter writing and civil disobedience as an ingredient. So they do it at great cost to themselves, at considerable cost. They're doing it because they think it can work, and that is something they learned. The countervailing powers, the ability in our system that the Soviets don't have -- they don't have a way of getting out of Afghanistan that the U.S. did have. They have an executive branch, almost unchallenged by these pressures that I'm talking about. They'll stay in longer for that reason, and to no better effect; they don't have that way out. Our system--and it is very far from foolproof, obviously--I think the solution lies in the strength of our system which is the democracy, the ability to know and to act decisively on that. And I think it's called for in this situation because once more Reagan is heading, is making a decision right now comparable in the 1980's, to Johnson's decision of July 28, 1965. He is in the

process of eliminating the legislative and treaty restraints on the mutual arms race. He is trying to abolish the ABM treaty, to destroy the negotiations for the comprehensive test ban, to leave his predecessor with an open field to match the Russians and incite the Russians to give us something to match.

I think we're headed towards an open ended arms race if Reagan has his way, which is only comparable to that escalation of the bombing in Vietnam on a smaller scale from zero to seven and a half million tons. We're in for an arms race that the world has never slightly seen, and the possibility of nuclear war at the end of it. This calls, for me I think, the utmost attempt to block it. But I must say I think these theories can actually tell us a lot as to who to look to to block them. And it's not

people, humans, like myself (on the whole), who feel that their jobs are jeopardized by either taking a policy that will stop it or opposing the President at the risk of their job. Don't count on it. Count on people who don't feel sufficiently responsible for the immediate policy and who do have some feeling of responsibility for the long run, for the children.

Question: I certainly agree with you on catastrophic decision making by the government in crisis situations...such as with Carter's decision with respect to rescuing the hostages. He was lucky enough to have had a mechanical failure; he could have had a total disaster. But it seems to me this is a little bit like saying that once a person gets into quicksand, what's a good move...[and it's certainly better to have averted the quicksand...]. None of these situations rose out of the blue. It took us four major setbacks in Vietnam... (?)...It took us a lot of intervention in Iran to make it that the word American is a word hatred in Iran today. That wasn't so as far as I know in 1920 and it is certainly true today. How did we bring that about? We certainly did via the support of the Shah. In none of these, if you will, critical crisis situations, regarded as (?) projection of American power. So while it's men approving the decision making process, I don't see how you can do anything until you change the idea that we are going to create a government with power to push people around around the world. No matter where we keep pushing, we're inevitably going to get the reaction and we'll be in quicksand...

Answer: You made several very good points. Let me try to rather than discuss the concrete reality, just for purposes of the seminar to pull in a reference from the theory where I can, where it seems appropriate. You notice that the--it's implicit in what I've been saying. One aspect that the theory points to, the prospect theory model as opposed to the decision theory one, if you've read it and you're familiar with it--is an awareness of some costs for the past which in turn affects what you regard as the reference point, what a loss is, what a gain is, and it has that effect. This is absent from classical decision theory which is really to say by the way, it's pretty absent, as you know, from economic theory as a whole and one...As soon as you begin to take that seriously I think, you begin to see enormous applications everywhere you look for them.

The generalization of that concept or an aspect of it is the notion of commitment--the element of an action as having in a dynamic situation an element of committing you to a course of action is one very underanalyzed in economic theory, and pretty much absent from decision theory. It follows very naturally from this notion of commitment. Of course what we saw is commitment to a cold war, commitment to a policy in Iran, commitment in Vietnam, in each case, which could lead you to say that in '65 it was inevitable. In that sense it wasn't so surprising. What is surprising is when you learn the power, the strength and authority of people who did advise against it. To say, for instance that it was inevitable--as Les Geld says--it was inevitable that Johnson, who was a cold warrior, would have to go ahead rather than go back. But when you looked at the cost and the lack of promise and the reality, by the way, that our government doesn't always go barging - it misses some occasionally. Kennedy did not--by the way I don't want to say the theory then tells us when somebody plunge into catastrophe; they don't always do it--Kennedy did draw back at the Bay of Pigs. Khrushchev drew back at the Cuban Missile Crisis, having gone in. No president got out of Vietnam even though they moved toward it, but they...Carter, as you say, did not back up the hostage thing and the bombing as Brzezinski wanted and so forth, they missed some. What could they miss this time?

And you look at '65 and then you see Clark Clifford who invented the Cold War for Truman. I could explain what I mean, you may know what I mean by that. In 1946 and 1948, he wrote the

memos for Harry Truman that put the Cold War into the political reality of the Democratic Party, the need in 1948 to beat Henry Wallace from the left, from Truman's left, by posing a Soviet threat to get rid of him, while he was dealing with Thurmond on the right. Clifford in 1948 had proposed that strategy: now we find in '65 Clifford is saying, "Not this one. Get out of this one." But that never was politically possible. So I'm just saving situations that you can't just say quite were determined: that's a little too simple, it's not a bad approximation. It's certainly the case that Johnson's decision reflected decisions that had been made year after year and had a society-wide aspect to them. The larger context you point to is power, is empire.

Question: I just want to note that you can frame the question about what we do in these situations, of how we deal with imminent catastrophe in the decision making process: or we can frame it as that plus the must bigger question "How do you these disasters in the first place?"

Answer: We have to do that in the longer run.

Question: I mean that is the problem really worth working on. ...putting in two presidents, three vice presidents. Forget it: it just won't work.

Answer: I agree. You can say the same, by the way, about Congress, Congress is very much part of this process; so is the public part of this process. So is the Russian public in its somewhat more passive way, but nevertheless part of the problem. All over the world which can make the thing look , maybe it is; however, there are short term aspects and somewhat longer term aspects to it. I am saying catastrophe intends, is such a possibility in any modern society. Pick up any daily paper, I mean the last days' paper. You may recall the Germans shipping radioactive milk to Africa; it's a social decision. It's not such a small thing for Africa.

Any society you can look at has this capability to make decisions of this nature, and we have to try to reduce the incidence of those catastrophes, even within the prevailing framework of empire, and to some degree Cold War. The shorter the time frame we look at--I say we can't live with the risks as they are until we change the whole structure, because there is the

sixth fleet [which I used to be a part of. I was once off Alexandria with 1,800 Marines in '56, the first time the Russians made nuclear threats, by the way.] Just as the battalion Marines are off Lebanon right now making threats which may or may not get carried out. How far could catastrophe be away from attacks on Syrian forces with Russian manned surface to air missiles and Russian troops commanding those and the possibility of their countering in attacks against our fleet with Iran and others having been trying for years to buy Exorcet missiles without our knowing? We may have sold them to them of course. Maybe somebody knows more of Iran's inventory here than I know. That's how far away we are from red alert, like tomorrow. We've been that way for a long time.

Question: The arms buildup that you see now...in what way could that a sure loss..... ?

Answer: That's important. My first answer on that, by the way, would be that this is not perceived by the Administration. I wouldn't have said this for Carter when he was doing the same buildup. Carter was facing the loss of the presidency if he didn't do what he didn't want to do. Carter wanted a freeze, Carter wanted massive reductions, Carter ended up making the same buildup as Reagan, because he was confronted with .
Fateful decisions, for Carter; extremely fateful decisions. Reagan is pushing not one single weapon, except the B-1 ,that Carter did not develop. And not one of those develops, from what we know of Jimmy Carter, not one of those weapons did Carter believe the U.S. needed. Why did he do it? Because he was facing...He did it precisely from 1978 on, and I might say by the way, looking back on it, a key element with great surprise took place in the Republican and Democratic parties. They lost the Shah of Iran. Suddenly Carter lost David Rockefeller who had been his main supporter; he switched to Bush and then to Bush and then to Reagan, at that point.

There are a lot of other aspects to this but the point was Carter was facing defeat when he lost Iran. How many people in America knew that we had Iran, it was our...how many people understood that the President's term in office depended on who ran Iran? But in fact it did to a large extent. Second, given that he had to build up the rapid deployment force to deal with Russian moves in the Middle East; that's what the rapid deployment force

is for. Armed with nuclear weapons, in 1980 he made a statement that our country would use any means to defend Iran, "defend" Iran, to defend our access to the oil in the Middle East against the Soviets and "any means" meant possible first use of nuclear weapons. That's all it's ever meant in defending Iran. It's the only way you can defend Iran.

By the way, I now get to that nuclear war is well advanced in its risk. I meant to point to a thing in the Poindexter memo that you can look up. The Poindexter memo, the January 17th memo says, talking about the hostages, "This is the only way to free the hostages." Basically if you look at the memo it is the only argument given: other arguments were attributed to the Israeli's. The only one he looked at is the hostages but also "The only way to do it and nothing else works." I said, in fact that in the face of a short term sure political loss--generalize this if you like to loss of Presidency of a corporation, takeover, various sorts of others--in the face of that, where you have a sure short term loss, or current policy to be averted only by costly or risky strategies, that defines crisis. That is a crisis. The fact that loss of office is means that there are a lot more crises than the public realizes that are perceived inside the government as real crises like the Cuban missile crisis. I can tell you as somebody who was in the Cuban missile crisis, it did not feel different from the usual weekly crisis of preparing for a press conference, a budget....

[END OF TAPE]